

**AMENDMENT TO THE DRAWINGS:**

The attached sheets of drawings include changes to Figs. 1-2. This sheet replaces the original sheet for Figs. 1-2.

In Figs. 1-2, the words --(prior art)-- have been added to the legends of the Figs.

**REMARKS:****In the Drawings:**

Submitted herewith as a replacement sheet is a proposed drawing change to FIGS. 1-2, adding the words --(prior art)-- to the legend of each FIG.

**In the Specification:**

The "Brief Description of the Drawings" section has been amended in a manner believed to obviate the objection of paragraph 2 of the Office Action. Particularly, the words --Prior Art-- have been added to the paragraphs beginning with "FIG. 1 ...." and "FIG. 2 ...." as suggested in the Office Action.

**Claims 5 and 6**

The drawings have been objected to under 37 CFR 1.83(a) as not showing every feature of the invention specified in the claims.

Regarding claim 5, which requires that the bump tapers have a trapezoidal shape, the Examiner is directed to FIGS. 5A, 5B, 11 and 12. The terms of a claim must be given their plain meaning unless defined in the specification. In other words, they must be read as they would be interpreted by those of ordinary skill in the art. The universal definition of a trapezoid is a quadrilateral (four sided shape) with two parallel sides. "Trapezoidal" means the object has this general shape. As shown in FIGS. 5A, 5B, 11 and 12, the bump (436) has a trapezoidal shape. It has parallel sides (upper and lower surfaces), a back side (positioned towards the back gap), and a front side (curved end towards the ABS). That one of the surfaces of the trapezoid can be curved is noted in the specification at p. 4, lines 17-21, reproduced below:

The bump may have many shapes, such as a generally circular shape, a generally oval shape, a generally triangular shape, or a generally trapezoidal shape with or without an end tapering (rounded or angled) towards the pole tips. In one embodiment, the bump is relatively short. In another embodiment, the bump extends in a direction away from the ABS

ABS but before the back gap of the magnetic head. (emphasis added)

Accordingly, the “generally trapezoidal shape” is shown in the Figures, namely FIGS. 5A, 5B, 11 and 12. Withdrawal of the objection is respectfully requested.

Regarding claim 6, which requires that the bump tapers together towards the ABS, the Examiner is directed to FIGS. 4A, 4B, 5A, 5B, 8, 9, 11 and 12. As shown in each of those Figures, the bump tapers together as it approaches the ABS. For example, see FIG. 4A, where the upper and lower surfaces of the oval-shaped bump (436) taper together as they approach the ABS (ABS), finally making contact in that embodiment about at the junction with layer (434). The tapering shape is described in the specification at p. 4, lines 17-21, reproduced below:

The bump may have many shapes, such as a generally circular shape, a generally oval shape, a generally triangular shape, or a generally trapezoidal shape with or without an end tapering (rounded or angled) towards the pole tips. In one embodiment, the bump is relatively short. In another embodiment, the bump extends in a direction away from the ABS but before the back gap of the magnetic head. (emphasis added)

As noted from this quote, the tapering can be rounded (as in FIG. 4A) or straight. Because the tapering is shown, withdrawal of the objection is respectfully requested.

Claims 1, 2, 7 and 25

Claims 1, 2, 7 and 25 have been rejected under 35 USC 102(e) as being anticipated by Kawasaki et al. (US6765757).

Regarding claim 1, Applicants respectfully disagree that Kawasaki anticipates claim 1. Particularly, claim 1 requires that the bump extend into a portion of the upper end of the first pole tip and a portion of the bottom end of the second pole tip, where the ends face each other.

Claim 1 has been amended to require that the claimed bump extend into the upper surface of the first pole tip towards the ABS, as shown in the FIGS. of the present application. In sharp contrast, the Gd layer (17) of Kawasaki does not extend into a

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portion of the upper end of Kawasaki's first pole tip (19) towards the ABS. Rather Kawasaki's Gd layer (17) appears to actually taper away from the upper end of the first pole tip (19) relative to the ABS (labeled as "FACE OPPOSING A RECORDING MEDIUM"). Accordingly, the claimed structure is physically distinguishable from Kawasaki's structure. Further, the claimed invention is functionally superior to Kawasaki's structure in that the claimed bump allows defining the throat height of the first pole tip to be shorter than the overall length of the first pole tip. This in turn not only allows the first pole tip to have more mass, and thus function better as a flux return path, but also provides improved write efficiency for lower track width/write gap length in modern high density heads.

Accordingly, claim 1 is believed to be allowable over the art of record.

Reconsideration and allowance of claim 1 is respectfully requested.

Claims 2 and 7 depend from claim 1 and therefore are also believed to be allowable. Reconsideration and allowance of claims 1, 2 and 7 is respectfully requested.

Claim 25 includes similar limitations as those found in claim 1. As such, claim 25 is also believed to be allowable over the art of record for the same reasons as claim 1.

Claims 3, 4, 6, 13 and 14

Claims 3, 4, 6, 13 and 14 have been rejected under 35 USC 103(a) as being unpatentable over Kawasaki.

The analysis of obviousness was set forth in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966). In order to establish a *prima facie* case of obviousness, three basic criteria must be met:

First, there must be some *suggestion or motivation*, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings of the references. Second, there must be a *reasonable expectation of success*. Finally, the prior art reference or combined references must teach or suggest *all the claim limitations*. *The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art*, and not based

on applicant's disclosure (*In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991; emphasis added).

Specifically, the modification to Kawasaki proposed by the Examiner fails the first and third elements of the *Graham* test.

Regarding the first element of the *Graham* test, that of suggestion or motivation to modify the reference, Applicants disagree that it would have been obvious to change Kawasaki's Gd layer (17) to have the shapes claimed in claims 3, 4, and 6, there being no motivation or suggestion to do so. The purpose of Kawasaki's Gd layer is to define the throat height (referred to in Kawasaki as gap depth). Nowhere does Kawasaki indicate that any other shapes of the Gd layer (17) would provide any benefit. Further, Kawasaki's Gd layer (17) in FIG. 2 is formed directly on the upper shield layer (16). Thus, the half-circle shape of Kawasaki's Gd layer (17) makes sense, as such a shape can be easily formed on the upper shield layer (16). However, it would be very difficult to form a bump having a circle, oval, or tapered shape, and that meets all of the other claimed limitations, directly on the Kawasaki's upper shield layer (16). Accordingly, it cannot be said that Kawasaki suggests the proposed modification.

Nor has the Examiner provided a reasonable motivation based on knowledge generally available to those skilled in the art and not provided by Applicants in the present disclosure.

"To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd.Pat.App.&Inter.1985).

Here, the Examiner has indicated that the motivation to modify the reference is based on improving the throat height characteristics. However, no mention of how or why such shapes would improve the throat height characteristics is given. Thus, the only

conclusion that can be drawn is that the motivation to change Kawasaki's structure, that of improved throat height characteristics, has been drawn from Applicants' disclosure.

Accordingly, the rejection fails the first prong of the *Graham* test.

Reconsideration and allowance of claims 2, 3 and 6 is respectfully requested.

Regarding the third prong of the *Graham* test, claims 3, 4, 6, 13 and 14 depend from claim 1, particularly as amended. Claim 1 is believed to be allowable over Kawasaki for the reasons set forth above. Particularly, Kawasaki does not teach or suggest a bump extending into a portion of the upper end of the first pole tip towards the ABS, as required by claim 1, particularly as amended. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Therefore, claims 3, 4, 6, 13 and 14 are also believed to be allowable by virtue of their dependence on claim 1.

For these reasons, claims 3, 4, 6, 13 and 14 are believed to be allowable over the art of record. Reconsideration and allowance of claims 3, 4, 6, 13 and 14 is respectfully requested.

#### Claim 5

Claim 5 has been rejected under 35 USC 103(a) as being unpatentable over Kawasaki in view of Sato (US6683750).

Claim 5 depends from claim 1 and therefore is also believed to be allowable over Kawasaki for the same reasons as claim 1. Sato has been added merely to show a trapezoidal structure of a bump. However, the Gd setting layer (45) of Sato has a similar construction and placement as Kawasaki, the main difference being the straight sides. An example of this is seen when comparing FIG. 2 of Kawasaki with FIG. 2 of Sato. As shown, the major distinction between the two is that Sato shows straight edges on the Gd setting layer (45) while Kawasaki shows a rounded Gd layer (17). Accordingly, the addition of Sato to Kawasaki does not anticipate claim 1. By virtue of its dependence, claim 5 is also allowable. Reconsideration and allowance of claim 5 is respectfully requested.

Claims 8-12, 15-17, 20-24

Claims 8-12, 15-17 and 20-24 have been rejected under 35 USC 103(a) as being unpatentable over Kawasaki in view of Yazawa (US2004/007876).

Applicants first note that Yazawa is not believed to be admitted prior art. Applicants request a showing of where an admission of Yazawa as prior art is found.

For reference publications and patents of patent applications filed under 35 U.S.C. 111(a), the prior art dates under 35 U.S.C. 102(e) accorded to these references are the earliest effective U.S. filing dates. No benefit of the filing date of the foreign application is given under 35 U.S.C. 102(e) for prior art purposes (*In re Hilmer*, 149 USPQ 480 (CCPA 1966)). Accordingly, the effective prior art date of Yazawa is its US filing date, October 3, 2003.

Submitted herewith is a declaration under 37 CFR 1.131 establishing invention of the subject matter of rejected claims 8-12, 15-17, 20-24 prior to the effective date of the reference (Oct 3, 2003). Per MPEP 715.02, Applicants may overcome a 35 U.S.C. 103 rejection based on a combination of references by showing completion of the invention by applicant prior to the effective date of any of the references; applicant need not antedate the reference with the earliest filing date. Therefore, Applicants respectfully request that the Examiner withdraw the rejection of claims 8-12, 15-17 and 20-24 based on Yazawa.

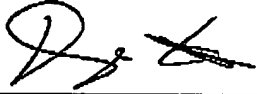
Reconsideration and allowance of claims 8-12, 15-17 and 20-24 is respectfully requested.

In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at (408) 971-2573. For payment of any additional fees due in connection with the filing of this paper, the Commissioner is authorized to charge such fees to Deposit Account No. 50-2587 (Order No. HSI920030069US1).

Respectfully submitted,

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